CIRC ACCESSION NO--AP0140313

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE KINETICS WAS STUDIED OF BONDING CELLOPHANE (I) WITH POLYETHYLENE (II) UNDER PRESSURE, AS DURING CALENDERING. THE INCREASE OF PRESSURE AND TEMP. DECREASED THE APPARENT VISCOSITY OF II, WHICH PENETRATED THE FISSURES AND PORES OF I. THE RATE OF PORE FILLING DECREASED WITH TIME DUE TO THE INCREASING PRESSURE DIFFERENTIAL. THE PROCESS WAS TREATED THEORETICALLY. ELECTRON MICROSCOPE PHOTOGRAPHS OF I AND II SURFACES, SEPD. AFTER SOME INTERPENETRATION TOOK PLACE, ARE SHOWN. FACILITY: MOSK. TEKHNOL. INST. MYAS. MOLOCH. PROM., MOSCOW, USSR.

1/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--LEVEL OF A TRYPSIN INHIBITOR AND ITS DETERMINATION IN THE PANCREATIC JUICE OF DOGS -U-

AUTHOR--FOMINA, L.S.

P.

COUNTRY OF INFO--USSR

SOURCE--FIZIOL. ZH. SSSR IM. I. M. SECHENOVA 1970, 56(2), 261-5

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PANCREAS, TRYPSIN, INHIBITION, DIET, VOLUMETRIC ANALYSIS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0293 STEP NO--UR/0239/70/056/002/0261/0265

CIRC ACCESSION NO--AP0120982

UNCLASSIFIED

2/2 019 UNCLASSIFIED PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0120982

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A VOLUMETRIC METHOD FOR DETN. OF TRYPSIN INHIBITOR (I) IN THE PRESENCE OF TRYPSINOGEN (II) IN PANCREATIC JUICE OF DOGS WAS DEVELOPED. THE LEVEL OF I IN PANCREATIC JUICE DEPENDED ON THE STIMULANT. PANCREATIC JUICE PRODUCED BY DIETARY MILK AND BUTTER AS STIMULANTS WAS RICHER IN I THAN THAT PRODUCED BY DIETARY MEANT AND BREAD. ADMINISTRATION OF PREDNISOLONE, 40 MG FOR 24 DAYS REDUCED MARKEDLY THE LEVEL OF I, BUT PROLONGED ITS EXCRETION AND INCREASED THE LEVEL OF TRYPSIN IN PANCREATIC JUICE, ESP. UPON FEEDING A HIGH FAT, LOW PROTEIN RATION. FACILITY: INST. NUTR., MOSCOW, USSR.

UNCLASSIFIED

USSR UDC 619-616.988.43:576.809.7

FOMINA, M. S., DRYAGALIN, N. N., SHAZHKO, Zh. A., and ONUFRIYEV, V. P.,
All Union Scientific Research Institute of Foot-and-Mouth Disease

"Antigenic Properties of Type C Foot-and-Mouth Disease Virus"

Moscow, Veterinariya, No 9, Sep 70, pp 40-42

Abstract: It was long held that type C foot-and-mouth disease virus, unlike types O and A, does not show variations in its antigenic properties. However, two strains of type C isolated in Great Britain exhibited considerable differences. Six strains of type C -- C-Polish, C-Czechoslovakian, C-TL-112 (received from Czechoslovakia), C-PL-42 (received from Poland), C-standard, and C-65 -- were studied in order to establish antigenic variations. On the basis of cross titration, complement-fixation and neutralization tests, the antigenic similarity of the strains (expressed in R%) was determined. The R values were calculated by a method described in the literature. Using the six strains, R was found to be 33-100% and 65-96% for the complement fixation and neutralization reactions, respectively. C-Polish, C-PL-42, and C-Czechoslovakian were identical (R = 91-100%). They differed considerably from C-65 (R = 55-70%) and C-standard (R = 33-48%). C-65 and C-standard differed from each other (R = 50%).

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USSR UDC 632.95

GOLUBEVA, Z. Z., FOMINA, N. I., and STRIZHNIKOVA, M. A.

"Insecticidal Properties and Effectiveness of Methylnitrophos"

V sb. Khim sredstva zashchity rast. (Chemical Agents for Plant Protection -- collection of works), vyp 1, Moscow, 1970, pp 17-25 (from RZh-Khimiya, No 11, Jun 72, Abstract No 11N395)

Translation: A survey of the published results of tests of methylnitrophos (I) done in the Soviet Union. As a contact insecticide, I is effective against many insects living in the open which are harmful to agricultural crops. The rate of use of a 30% concentrate of emulsions of I is equal to 2-3 kg per hectare, depending on the crop. Residues of I have comparatively low persistence on plant leaves. Compound I is authorized for use in the Soviet Union. The last deadline for spraying fruit, vineyards, and vegetable, field and commerical crops is twenty days or more before harvest.

1/1

Entomology

USSR UDC 576.895.771.095.18:615.285.7

GOLUBEVA, Z. Z., and FOMINA, N. I., All Union Scientific Research Institute of Chemical Means of Plant Protection, Moscow

"Toxicity of Methylnitrophos for Larvae of the Mosquito Culex pipiens molestus"

Moscow, Meditsinskaya Parazitologiya i Parazitarnyy Bolezni, Vol 39, No 6, 1970, pp 708-712

Abstract: Methylnitrophos, synthesized at the All Union Scientific Research Institute of Chemical Means of Plant Protection, is a mixture of two isomers - 0,0-dimethyl-3-(3-methyl-di-nitrophenyl) thiophosphate and 0,0-dimethyl-0-(3-methyl-6-nitrophenyl) thiophosphate in the ratio of 2:1. Laboratory tests showed that it is no less toxic for Culex pipiens molestus larvae than DDT. No synergistic effect was noted when the ratio of the two isomers was altered, although the 1:1 ratio was the most potent. Methylnitrophos has comparatively low toxicity for warm-blooded animals.

USSR UDC 547.13 + 661.781.6

FOMINA, N. V., SHEVERDINA, N. O., and KOCHESHKOV, K. A., Academician,
Physico-Chemical Institute imeni L. Ya. Karpov, Moscow

"Synthesis of Germanium-Organic Compounds of the Type Ar_2GeX_2"

Moscow, Doklady Akademii Nauk SSSR, Vol 201, No 5, 1971, pp 1128-1129

Abstract: Previous methods of preparing germanium-organic compounds led to mixtures which were difficult to purify. A method proposed earlier for the arylation or alkylation of germanium salts in the presence of Cu powder was extended to cover the introduction of a second aryl group starting with $ArGeX_3$ at much higher temperatures. All reactions were run in an argon atmosphere. Starting with tribromophenylgermanium at 250° for 10 hours with Cu and iodobenzene, dibromodiphenylgermanium was obtained. Yield was dependent on the ratio of the starting materials. Diiododiphenyl-germanium and dibromophenyltoluylgermanium were obtained in the same fashion.

USSR UDC: 621.791.011:669.15-194

FOMINA, O. P., LEVENBERG, N. Ye., SELEZNEV, A. G., and GERMAN, S. I.;
Khar'kov Polytechnical Institute, Karh'kov, Turbine Plant

"Mechanical Properties of the Metal in the High-Temperature Region of the Heat-Affected Zone in 15Kh1M1FL Steel Welds"

Kiev, Avtomaticheskaya Svarka, No 11, Nov 70, pp 30-31

Abstract: A study was made of the high-temperature region of the heat-affected zone in 15Kh1M1FL steel (0.19% C, 0.64% Mn, 1.7% Cr, 1.14% Mo, 0.14% V). The effects of various tempering conditions on the structural transformations and properties of the metal of each variant of the imitated weld-affected zone were analyzed. It was found that the ductility of the metal in the high-temperature region of the heat-affected zone markedly depends on the cooling rate after welding. As applied to multipass welding conditions, the required impact toughness may be met by tempering the weld at 740-760°C. The hardness of the high-temperature region of the heat-affected zone in 15Kh1M1FL will not always

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USSR

FOMINA, O. P., et al, Avtomaticheskaya Svarka, No 11, Nov 70, pp 30-31

correlate with the impact toughness. A decrease in the hardness after tempering even to HV 220 for a metal very slowly cooled down from 1300°C will not raise the impact toughness.

USSR UDC [621.357.7:669.781]:669.14

FOMINYKH, I. P., VOLOSKOV, N. V., and LAUKHIN, V. I.

"The Effect of Boridation on Properties of the Steel 20G2"

Tula, Sb. Tekhnol. mashinostroyeniya (Collection of Works: Machinebuilding Technology), Vyp 11, 1971, pp 66-79 (from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom, No 23(II), 1972, Abstract No 23L302 by A. D. Davydov)

Translation: The effect of electrolytic boridation on mechanical properties and wear resistance of steel 20G2 subjected to different heat treatment was studied. A comparison of the strength and plasticity of this steel showed that the ultimate strength of borided samples (in comparison with unborided or casehardened) was the highest, 157.5 kg/cm^2 in the presence of sufficient plasticity which amounted to 8% elongation and 4 kg/cm^2 of impact toughness after hardening and tempering. Plasticity of the borated steel which was not subjected to heat treatment was high but its strength was low (62.8 kg/cm^2). Hardening conducted at the boriding temperature eliminated the effect of grain growth and increased the ultimate strength of 103 kg/cm^2 in the presence of a satisfactory plasticity. The microhardness of the surface layer of borided items remained unchanged at 1200 Hv, regardless of the types of heat treatment. Experimental data indicated that the resistance to wear of borided layer was higher compared with the casehardened or simply hardened layer after either low or high annealing.
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USSR

SAMOYLOV, N. A., FOMINYKH, L. F.

"Movement and Nature of the Front of Adsorption of Benzene by Zeolites from a Mixture of Benzene-n-heptane"

Dokl. Neftekhim. Sektsii. Bashkir. Resp. Pravl. Vses. Khim. o-va im. D. I. Mendeleyeva [Reports of Petrochemical Section, Bashkir Republic Administration of All-Union Chemical Society imeni D. I. Mendeleyev], No 6, 1971, pp 174-178 (Translated from Referativnyy Zhurnal, Khimiya, No 3, 1972, Abstract No 3 B1500 from the Resume).

Translation: It is demonstrated that the front of adsorption of benzene during separation of a benzene-n-heptane mixture by NaX zeolites has a S shape with an extended tail and moves at a constant rate in the direction of the flow. The experimental method selected allows the length of the mass-transfer zone to be determined directly from the experimental data.

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USSR

UDC: 539.163.546.663

VYLOV, Ts., GROMOV, K. Ya., GROMOVA, I. I., ISKHAKOV, G. I., KUZNETSOV, V. V., KUZNETSOVA, M. Ya., POTEMPA, A. V., FOMINYKH, M. I.

"Investigation of the Decay of ^{148}Tb and ^{150}Tb. Part II. γγ-Coincidence. Decay Schemes of ^{148}Tb and ^{150}Tb"

Moscow, Izvestiya Akademii Nauk SSSR: Seriya Fizicheskaya, Vol 37, No 1, Jan 73, pp 48-52

Abstract: The paper presents studies of γγ-coincidence spectra of terbium isotopes ^{148}Tb and ^{150}Tb with their decay schemes and a comparison of the analogous excited states of ^{148}Gd and ^{150}Gd nuclei and the neighboring nuclei of samarium and neodymium. If it is assumed that the odd 65-th proton and 83-d (85-th) neutron in the nuclei of ^{148}Tb and ^{150}Tb are on shells $d^3/_2$ and $f^7/_2$ respectively, then according to the shell model the ground state of ^{150}Tb has the configuration $\{p(d^3/_2)^1 n(f^7/_2)^3\}$, while that of ^{148}Tb is $\{p(d^3/_2)^1 n(f^7/_2)^1\}$. These configurations allow values of the I^π-ground states of these isotopes of 5^-, 4^-, 3^-, and 2^-. From the decay schemes of these nuclei and the values of log ft, it may be concluded that the spin and parity of the ground states of these isotopes must be 2^-.

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USSR

SIMONOV, V. D., SEMENOV, V. A., FOMINYKH, M. V.

"Polarographic Determination of Tetrachloromuconic Acid Isomers"

Dokl. Neftikhim. Sektsii. Bashkir. Resp. Pravl. Vses. Khim. O-va im. D. I. Mendeleyeva, [Works of Petrochemical Section, Vashkir Republic Administration of All-Union Chemical Society imeni d. I. Mendeleyev], Vol 6, 1971, pp 339-345. (Translated from Referativnyy Zhurnal Khimiya, No 4, Moscow, 1972, Abstract No 4N694 by N. S. Ivanova).

Translation: Polarographic studies of cis-cis (I) and trans-trans (II) isomers of tetrachloromuconic acid in different electrolytes (0.1) n. $HClO_4$ and 0.1 M LiCl) showed: a) I is more easily reduced than II; b) di-ME I is adsorbed more easily than di-ME II. A method is suggested for polographic analysis of II in the reaction mass as it is produced.

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JPRS 59268
6-73

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IX-2. THERMODYNAMIC ANALYSIS OF THE GROWTH PROCESSES OF GERMANIUM ALLOYED WITH TIN BY THE METHOD OF COMBINED GAS-LIQUID EPITAXY

[Article by T. V. Fedorova, N. A. Fominykh, G. A. Kokovin, F. A. Kuznetsov, Novosibirsk; Novosibirsk, III Simpozium po Protsessam Rosta i Sinteza Poluprovodnikovykh Kristallov i Plenok, Russian, 12-17 June 1972, p 116]

A thermodynamic analysis was made of the Ge-Sn-Cl-H system considering all possible condensed phases. The results of the analysis are applied to the investigation of various schemes for growing epitaxial layers of germanium via a layer of liquid tin by the combined gas-liquid epitaxy method. The conditions of performing the following steps were calculated: application of the layer of liquid tin to the substrate, growth of the germanium layer through the tin-germanium melt layer, and removal of the liquid layer.

FOMINYKH, N.A.

USSR UDC 621.783:621.371.332:523.4

LUKIN, D. S., SPIRIDONOV, Yu. G., FOMINYKH, S. I., and SHKOL'NIKOV, V. A.

"Investigating Refraction, Doppler Frequency Shifts, Field Intensity, and Caustics in the Radio Transmissibility of the Martian Atmosphere"

Moscow, V sb. X Vses. konf. po rasprostr. radiovoln. Tezisy dokl. Sekts. 3 (Tenth All-Union Conference on the Propagation of Radio Waves; Report Theses; Section 3--collection of works) "Nauka," 1972, pp 32-36 (from RZh--Radiotekhnika, No 10, 1972, Abstract No 10A428)

Translation: The refraction and field intensity in the atmosphere of Mars are computed over various trajectories of the Martian artificial satellites in the frequency range of 100-2200 MHz. An empirical formula is obtained for the refraction angle in the ionosphere as a function of the frequency. The Doppler shift introduced by the ionosphere and troposphere is given in terms of the position of the satellite. An investigation is made of the effect of horizontal heterogeneities in the Martian ionosphere on the accuracy of measurements of the electron concentration from the data on the eclipsing of radio communications. Five illustrations, bibliography of three. N. S.

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1/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--PLATINUM CONTENT OF URAL DUNITES -U-

AUTHOR-(02)-FOMINYKH, V.G., KHVOSTOVA, V.P.

F

COUNTRY OF INFO--USSR

SOURCE--DOKL. AKAD. NAUK SSSR 1970, 191(2), 443-5

DATE PUBLISHED--------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--PLATINUM, ROCK, MINERAL DEPOSIT, CHROMITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1997/1053 STEP NO--UR/0020/70/191/002/0443/0445

CIRC ACCESSION NO--AT0119920

UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--23OCT70
CIRC ACCESSION NO--AT0119920

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DUNITES OF 2 ASSOCNS. ARE KNOWN IN URALS: (1) DUNITE PYROXENITEGABBRO ASSOCN., THE ROCKS OF WHICH ARE PRESENT IN SO CALLED PT BEARING BELT OF ULTRABASIC AND BASIC INTRUSIONS IN URALS, AND (2) DUNITE HARZBURGITE ASSOCN. WHICH IS CONSIDERED PT BARE. DETNS. OF PT AND PT METAL CONTENTS IN DUNITES OF THESE ASSOCNS. LED TO CONCLUSION THAT (1) CONTENT OF PT METALS IN DUNITES OF BOTH ASSOCNS. IS THE SAME AND (2) THE PT METALS ARE DISTRIBUTED IN DUNITES NONUNIFORMLY AT ELEVATED CONTENTS TYPICAL OF CHROMITE ORES. THE STUDY OF DISTRIBUTION OF PT GROUP METALS IN VARIOUS ROCKS OF THE SAME MASSIF SHOWED THAT THEIR CONTENT DOES NOT DEPEND ON THE COMPN. OF ROCK, WITH MAX. AMTS. DETECTED ONLY IN ROCKS CONTG. CHROMITE VEINLETS.

FACILITY: INST. GEOL. GEOKHIM., SVERDLOVSK, USSR.

UNCLASSIFIED

USSR

UDC 621.039.564.2(017)(083.76)

YARITSYNA, I. A., SHCHEBOLEV, V. T., FOMINYKH, V. I., and STUKOV, G. M.

"Primary Government Standard for Neutron Flux Units"

Moscow, Izmeritel'naya Tekhnika, No 8, 1972, pp 8-11

Abstract: Beginning with 1960, when the first designs for equipment based on the method of concomitant particles were developed, work has been carried on at the D. I. Mendeleyev VNIIM (All-Union Scientific Research Institute of Metrology) to set up a primary government standard for the unit of neutron flux. This standard, approved by the Committee on Standards on 13 May 1969, involves complex measurement methods using three standard devices: the UEN-1, UEN-2, and UEN-3. The basic theory of these devices is discussed and a photograph of the first instrument in an external view is reproduced. A comparison of the Soviet method with those of other nations, made in 1962-1964 using the Canadian Ra-Be (α,n) neutron source No 200-1, is described.

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USSR UDC 546.821'.185:66.074.7

DRANITSINA, N. V., YEGOROV, YU. V., and FOMINYKH, V. YA., Ural Polytechnical Institute imeni S. M. Kirov

"Application Synthesis of Ionites Based on Titanium Phosphate"

Moscow, Neorganicheskiye Materialy, Vol 6, No 12, Dec 70, pp 2178-2182

Abstract: Inorganic ion exchangers are synthesized on the basis of titanium phosphate using the method of application with ions of trivalent Ce, Fe, and Cr. Their composition is studied as a function of the conditions of their synthesis (pH of precipitation, P_2O_5:TiO_2 ratio in initial solutions, influence of third component). An increase in specificity of the applied titanium phosphate to ions of trivalent elements is established. It is demonstrated that the titanium phosphate is resistant to the effects of corrosive media.

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USSR

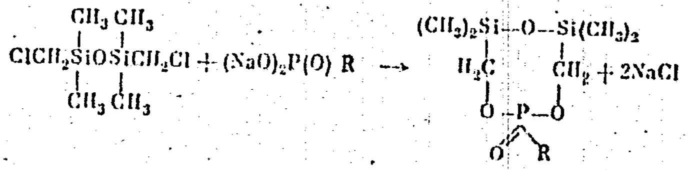
UDC 547.12'8-661.718.1

ANDRIANOV, K. A., VASIL'YEVA, T. V., and FOMINYKH, YE. S.

"The Condensation of Disodium Alkylphosphonates With 1,3-Dichloromethyltetramethyldisiloxanes and Dichlorodiphenylsilanes"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, pp 850-854

Abstract: The reaction of disodium salts of alkyl phosphonic acids with organosilicon compounds containing either a chlorinated aliphatic radical or a chlorine bonded directly to the silicon was studied. The two types reactions are as follows:



VII

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1/2 026 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--ACTION OF TRANSAMINE AND AN ANALEPTIC MIXTURE ON BLOOD AND TISSUE
OXYGENATION IN DOGS AFTER ACUTE BLOOD LOSS -U-
AUTHOR--FOMOCHKIN, I.P.

F

COUNTRY OF INFO--USSR

SOURCE--FARMAKOL. TOKSIKOL. (MOSCOW) 1970, 33(1), 54-6

DATE PUBLISHED--------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--HEMORRAGE, DOG, OXYGEN CONSUMPTION, HEMODYNAMICS, BLOOD
PRESSURE, BRAIN, MUSCLE PHYSIOLOGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1986/1671 STEP NO--UR/0390/70/033/001/0054/0056

CIRC ACCESSION NO--AP0103437
UNCLASSIFIED

2/2 026 UNCLASSIFIED PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AP0103437

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TRANSAMINE (1.25 MG-KG) AND TO A LESSER EXTENT AN ANALEPTIC MIXT. ADMINISTERED I.V. TO ANESTHETIZED DOGS 1 HR AFTER ACUTE (20PERCENT) BLOOD LOSS INCREASED O CONSUMPTION FROM THE BLOOD AND PO SUB2 IN THE MUSCLES AND BRAIN DUE TO IMPROVED HEMODYNAMICS (INCREASED ARTERIAL PRESSURE AND VOL. RATE OF VENOUS BLOOD FLOW).

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UNCLASSIFIED

USSR UDC:629.78.015:533.6.015.04

FONAREV, A. S.

"Calculation of Flow Around Axisymmetrical Bodies and Lifting Surfaces by a Transsonic Gas Stream"

Uch. Zap. Tsentr. Aerogidrodinam. In-ta [Scientific Writings of Central Institute of Aerodynamics and Hydrodynamics], 1973, 4, No 3, pp 1-10 (Translated from Referativny Zhurnal Raketostroyeniye, No 11, 1973, Abstract No 11.41.93, from the resume)

Translation: The problem of flow around axisymmetrical bodies and lifting wing surfaces by a transsonic gas stream is studied; the numerical solutions are achieved using the finite-difference method of Godunov. Results are presented from calculation of flow around axisymmetrical bodies of several classes (cylindrical body with spherical blunting, flat end of a cylinder), as well as two profiles (NACA 64A-410 and a peaked profile) at various angles of attack in the range of numbers M_∞=0.7-1.3.

USSR UDC 533.6.011

TUGAZAKOV, R. Ya., FONAREV, A. S., Moscow

"The Initial Stage of the Collision of Explosive Waves"

Mekhanika Zhidkosti i Gaza, No 5, 1971, pp 41-48.

Abstract: The problem of the collision of two explosion waves with variable gas parameters beyond the leading edge of the wave and reflection of the wave from flat, cylindrical and spherical barriers is studied. The dependences of gas parameters behing the reflected wave in the initial stage are produced. The reflection of an explosive wave from a nonmoving barrier is studied in detail. The problem of the collision of two shockwaves with constant parameters behind the leading edge is solved both in the symmetrical case (reflection from a nonmoving wall) and in the case of waves of different amplitude using a system of algebraic relationships for the compression jumps. The initial stage of the collision of waves with arbitrary distribution of parameters behind the front is studied.

Acc. Nr.: AP0042378 F Ref. Code: UR0203

JPRS 50162

Work Aboard the Nonmagnetic Schooner "Zarya"

(Abstract: "Some Results of Work with the Electromagnetic Current Meter on the Nonmagnetic Schooner 'Zarya' in the Indian Ocean," by A. N. Pushkov and G. A. Fonarev, Institute of Terrestrial Magnetism, Ionosphere and Radio Wave Propagation; Moscow, Geomagnetizm i Aeronomiya, Vol X, No 1, 1970, pp 177-180)

A study was made of the effect of diurnal variations of telluric currents on the operation of the electromagnetic current meter in the Indian Ocean during the voyage of the schooner "Zarya" during 1966-1967. The article is accompanied by a map of the stations occupied. The schooner averaged 6 knots. The vessel carried a GM-15 electromagnetic current meter. The measurement base was 50 m. The recording potentiometer had a response of 0.1 mV/graduation. The graduation of the current meter varied in a wide range from ∞ at the magnetic equator to 4 cm/sec with $Z = 0.5$ oe. Elements of the geomagnetic field were registered continuously. The H-component was registered with a sensitivity of 10γ, D -- 0.2° and Z -- 10γ. The diurnal variation of D has the form of a simple wave with a maximum in the morning hours and a minimum in the evening hours in the northern hemisphere. In the southern hemisphere the diurnal variation of D has a minimum in the

1/2 Reel/Frame 19760337 12

AP0042378

morning hours and a maximum in the evening hours. The diurnal variation of the H component is a simple wave with a maximum in the midday hours in the zone ~30°N-30°S. To the south and north there is a minimum in the diurnal variation of H during the midday hours. The diurnal variation of the northerly component H_x is close to the diurnal variation of H whereas the diurnal variation of the easterly component H_y is similar to the variation of magnetic declination D. Quiet solar-diurnal variations attain maximum values in the H component (and also in H_x) in the low latitudes -- several hundred gammas, an order of magnitude greater than the amplitudes of these variations in the middle latitudes. There is a good correlation between electric and magnetic variations in the ocean. The results indicated that the electromagnetic current meter is subject to the influence of dirunal variations of electric currents in the ocean. Due to diurnal variations the errors in current velocities can attain tens to hundreds of cm/sec. It is desirable that the EMIT be used in measuring electric fields. In this way the electromagnetic current meter can be useful in magnetotelluric reconnaissance in the oceans. It can evidently also be used in a marine magnetic survey for separating spatial and temporal variations.

19760338

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USSR UDC 614.4

FONAREV, L. S.

"Organization and Methods of Work of Sanitary-Epidemiological Stations"

Moscow, Zdravookhraneniye Rossiyskoy Federatsii, No 10, 1971, pp 6-8

Abstract: One of the main tasks of oblast sanitary-epidemiological stations is to guide the work of their subordinate units, especially those in rural areas, which are in particular need of help because of their small staffs and comparatively meager facilities and equipment. Since the relationship between the oblast and local stations is not clearly defined, the various functions and responsibilities that should be fulfilled by the oblast stations are outlined. These functions concern organization, methods, control, implementation, planning and setting of standards, personnel, and statistics.

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USSR UDC 614.3(47-22)

FONAREV, L. S., LIVSHITS, V. L., and KONDRASHOV, A. K., Chair of Social Hygiene and Public Health Organization, Leningrad Sanitary Hygiene Medical Institute, and Leningradskaya Oblast Sanitary Epidemiological Station

"Work of Sanitary Epidemiological Stations with Rural Public Sanitary Inspectors (Based on Materials From Leningradskaya Oblast)"

Moscow, Gigiyena i Sanitariya, No 7, Jul 70, pp 64-68

Abstract: In 1965 the health authorities of Leningradskaya Oblast decided to change the existing forms of volunteer assistance to sanitary epidemiological stations and physicians in rural areas by organizing a corps of public health inspectors, providing them with systematic training, and then assigning them specific responsibilities (e.g., inspection of sanitary conditions in homes, warehouses, and on farms; education of the people in the value of personal hygiene and regular medical check-ups; etc.). In just a few years these rural public sanitary inspectors have made a significant contribution to reducing morbidity for a number of infectious diseases, ulcers, and parasitic diseases. Training and assignment of work is the responsibility of sanitary epidemiological stations; the Red Cross helps to locate and recruit likely candidates.

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Semiconductors and Transistors 1

USSR UDC 537.311.33

BALODIS, YA.K., PENTYUSH, E.V., PURITIS, T.YA., KONAV, E.A., EGLITIS, V.YA.

"Light Emitting Phenomena Of Mesoplasma In Silicon P-N Junctions In A Pulse Regime"

V sb. Poluprovodniki i ikh primeneniye v elektrotekhn. (Semiconductors And Their Application To Electrical Engineering--Collection Of Works), No 5, Riga, "Zinatne," 1971, pp 139-152 (from RZh:Elektronika i yeye primeneniye, No 1, Jan 72, Abstract No 18131)

Translation: The time dependence of light emission of mesoplasma in a pulse regime is investigated. The regularities established are evidence that the appearance of light emission preceding an abrupt change of the voltage or current are dependent upon the appearance of mesoplasma. The degree of warming up of the carriers is analyzed as well as the possibility of the appearance of recombination radiation in the "pre-mesoplasma" state and in the time of existence of the mesoplasma. 6 ill. 34 ref. Summary.

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Epidemiology

USSR

UDC 616.981.717-036.22(477)

ZATULOVSKIY, B. G., SHKOL'NIK, L. YA., ANISHCHENKO, G. A., MUKHOPAD, V. A., and FONBERG, M. M., Kiev Institute of Epidemiology, Microbiology, and Parasitology, Donetskaya Oblast Sanitary Epidemiological Station, and Donetskiy Medical Institute

"Vesicular Rickettsiosis in the Ukrainian SSR"

Moscow, Zhurnal Mikrobiologii Epidemiologii i Immunobiologii, No 1, 1973, pp 124-128

Abstract: Since the outbreak of vesicular rickettsiosis in Donetskaya Oblast in 1948-1950, with the peak number of 594 rickettsiosis patients recorded in 1950, comprehensive therapeutic and preventive measures have been applied and epidemiological, clinical, etiological, and laboratory data regularly recorded. Statistical analysis of the data indicates a steady decline in the frequency of the disease to 139 cases in 1955, 41 in 1960, 6 in 1964, 3 in 1968, and none in 1969 and 1970. According to serological tests performed on a large number of healthy individuals and patients with various febrile diseases, there are no population contingents with immunity to vesicular rickettsiosis, suggesting that the number of undiagnosed cases is small if not zero. Surveys performed in Zhitomir, Kiev, and a number of regions in Kiev Oblast indicate absence of rickettsiosis in those areas.

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USSR UDC 577.150.6

KOZLOVA, V. KH., and FOMINA, N. A.

"Cholesterol-Decomposing Activity of Some Bacterial Species"

Moscow, Mikrobiologiya, No 2, 1971, pp 275-279

Abstract: Study of 38 bacterial cultures isolated from various sources showed that most forms of Pseudomonas are capable of decomposing cholesterol in varying degrees. In 13 of the 18 Pseudononas cultures examined, activity ranged from 10 to 27%. Ps. pyocyanea and Ps. fluorescens strain 22 were most active, 33 to 40%. A comparison of some Pseudomonas strains with Mycobacterium rubrum revealed that Mirabrum strains are almost twice as active as the former when grown on a medium without cholesterol. When cholesterol was added to the medium, M. rubrum became 30% more active, whule some Pseudomonas cultures became less active. The addition of high cholesterol concentrations (50 to 100 μg/ml) to the medium depressed cholesterol oxidase activity in Ps. pyocyanea.

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1/2 036 UNCLASSIFIED PROCESSING DATE--30OCT70

TITLE--ISOTHERMAL VOLT AMPERE CHARACTERISTICS OF MESOPLASMA IN SILICON LOW VOLTAGE P-N JUNCTIONS -U-

AUTHOR-(03)-PENTYUSH, E.V., FONOV, E.A., PURITIS, T.

COUNTRY OF INFO--USSR

SOURCE--LATV. PSR ZINAT. AKAD. VESTIS, FIZ. TEH. ZINAT. SER. 1970, (2), 26-9

DATE PUBLISHED---------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--PN JUNCTION, SEMICONDUCTOR PLASMA, VOLT AMPERE CHARACTERISTIC, SILICON SEMICONDUCTOR, PULSE SIGNAL, ISOTHERM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1144 STEP NO--UR/0371/70/000/002/0026/0029

CIRC ACCESSION NO--AP0124799

UNCLASSIFIED

2/2 036 UNCLASSIFIED PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0124799

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A METHOD USING A DOUBLE STEP SQUARE VOLTAGE PULSE APPLIED TO THE P-N JUNCTION IS PROPOSED TO DET. THE ISOTHERMAL V-A CHARACTERISTICS OF MESOPLASMA IN SI P-N JUNCTIONS. SUCH CHARACTERISTICS HAVE 2 REGIONS OF POS. DYNAMIC COND., BETWEEN WHICH LIES AN ALMOST SATD. REGION OF SMALL NEG. DYNAMIC COND. HIGH COND. IN THE LOW VOLTAGE REGION OF THE POS. DYNAMIC COND. IS DUE TO THE LARGE CONCN. OF CURRENT CARRIERS AND THE HIGH TEMP. REGION OF THE MICROPLASMA. THE REASONS FOR THE APPEARANCE OF THE HIGH VOLTAGE REGION OF THE POS. DYNAMIC COND. ARE NOT CLEAR. FACILITY: FIZ.-ENERG. INST., RIGA, USSR.

UNCLASSIFIED

USSR UDC 669-419.4

KOTOV, V. F., FONSHTEYN, N. M., and SHVARTS, V. I.

"A Heat-Resisting Composite: Nichrome-Tungsten Fiber"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, 1971, pp 20-22

Abstract: The article describes a nichrome-base composite reinforced with tungsten fiber. Minimum contact between the tungsten fibers and liquid nichrome is assured by vacuum impregnation of the set of fibers with the molten metal of the matrix. The vacuum suction setup consists of a vacuum system, an induction melting furnace, and tube furnace for preheating the ring filled with the tungsten wire. The ring is a tube made of 1Kh18N10T steel. The strengthener is wire made of VA tungsten or the alloys VAM-5 and VAR-5, containing 5 percent Mo or rhenium, respectively. Fused ultrapure aluminum oxide (alundum) is suggested as a coating to protect the tungsten wire from dissolution

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KOTOV, V. F., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, 1971, pp 20-22

in the matrix. Short-time tensile tests at 1100° C of nichrome reinforced with 450-micron-diameter VA tungsten wire showed that 40 vol. percent of the strengthening fiber provides over an 8-fold increase in the ultimate strength of the matrix and over a 15-fold increase in yield strength. The long-time strength of the resultant composite is 40-50 percent higher than for the best heat-resisting nickel alloys.

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Composite Materials

USSR UDC 669.71'782'3

FONSHTEYN, N. M., TIKHOMIROVA, G. N., KOTOV, V. F., and SHVARTS, V. I.

"Tungsten Fibers As a Strengthener for A Heat-Resisting Composite"

Moscow, Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, 1971, pp 11-14

Abstract: The authors studied characteristics of tungsten fibers which determine the possibility of their use as reinforcement in a heat-resisting nichrome-base composite. Wire specimens of so-called "non-sag" VA tungsten, 25-500 mm in diameter, were used for the study, as well as the tungsten alloys VAR-5 and VAM-5. To estimate the strengthening effect of the reinforcing fibers on the heat resistance of the composite, a determination was made of wire strength after the technological operations of the composite fabrication cycle. It was found that the short-time strength at 1100° C of "raw" and annealed 0.15-mm-diameter speci-

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USSR

FONSHTEYN, N. M., et al., Metallovedeniye i Termicheskaya Obrabotka Metallov, No 8, 1971, pp 11-14

mens of VA wire is 92 and 84 kg/mm^2, respectively. Prolonged exposure to elevated temperatures (800-1200° C) causes almost no change in the structure and mechanical properties of the investigated tungsten alloys. However, surface contact between tungsten and its alloys and nickel even at 800° C causes considerable loss of wire ductility and microhardness, and at 1200° C results in appreciable grain growth on the wire surface. High long-time heat resistance can be provided for a nichrome-base composite with tungsten strengthener by using special protective coatings to protect the reinforcement against the action of the matrix, as well as by changing the composition of the matrix and alloying the reinforcing material.

2/2

USSR UDC 612.017.1.014.46:615.277.3+612.017.1.014.482

KAZARYAN, K. A., FONTALIN, L. N., PEVNITSKIY, L. A., and SOLOV'YEV, V. V., Institute of Epidemiology and Microbiology imeni N. F. Gamaleya, Academy of Medical Sciences USSR, Moscow, and Institute of Experimental Biology, Academy of Sciences Armenian SSR, Yerevan

"Effects of Some Alkylating Agents and of Whole-Body Gamma-Irradiation on the Formation and Realization of Immunological Memory"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 72, No 11, Nov 71, pp 58-61

Abstract: Mice were immunized twice with 1×10^6 sheep erythrocytes at an interval of 27-44 days. They were subjected to the action of an alkylating agent (sarcolysin, degranol, thioTEP, cyclophosphamide) or gamma-irradiation in a dose of 500 R either at the time of the first immunization, in the interval between immunizations, or at the time of the second immunization, whereupon the secondary response was determined by the method of N. K. Jerne and A. A. Nordin (Science, Vol 140, p 405, 1963) on the basis of the amount of antibody-forming cells in the spleen on the 4th day after the second immunization. As shown by this response, all the agents blocked the realization of immunological memory and weakened its formation. The alkylating compounds had a stronger effect on the process of memory formation than on the already

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USSR

KAZARYAN, K. A., et al., Byulleten' Eksperimental'noy Biologii i Meditsiny, Vol 72, No 11, Nov 71, pp 58-61

formed memory (the secondary response was weaker when agents were applied at the time of the first immunization than between immunizations), whereas the inverse relationship applied to irradiation. The observed phenomena can be explained on the basis of different sensitivities of resting and proliferating lymphoid cells to irradiation as compared with alkylating agents.

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Acc. Nr: AP0051919 Ref. Code: UR0219

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PRIMARY SOURCE: Byulleten' Eksperimental'noy Biologii i
Meditsiny, 1970, Vol 69, Nr 2, pp 56-60

SOME CONDITIONS ATTENDING DEVELOPMENT AND PROLONGATION OF IMMUNOLOGICAL TOLERANCE INDUCED IN ADULT ANIMALS BY COMBINED INJECTIONS OF ANTIGEN AND CYCLOPHOSPHAN

L. A. Pevnitskiy, V. V. Solov'yev, L. N. Fontalin

N. F. Gamalei Institute of Epidemiology and Microbiology of the Academy of Medical Sciences of the USSR, Moscow

Conditions attending development of tolerance in combined injections of an antigen (sheep erythrocytes) and cyclophosphan are analyzed. Injection of cyclophosphan 1—2 days after that of the antigen is shown to be more effective. The use of cyclophosphan 4 days after administration of antigen yielded a reverse effect (increased immunoreactivity to the antigen). High antigen doses are needed to develop the tolerance. The state of tolerance can be prolonged through additional injections of the antigen. Preliminary sensitization of the animals with small antigen doses prevents development of tolerance. The results obtained are interpreted from the standpoint of the clonal-selection theory.

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REEL/FRAME
19820402

USSR UDC: 51:621.391

TYRMOS, V. I., FONTANKINA, V. S.

"Algorithm for Optimizing the System Comprised of Main Administrative Board and Enterprise"

Kiev, Prom. kibernetika--sbornik (Industrial Cybernetics--collection of works), 1971, pp 40-50 (from RZh-Kibernetika, No 10, Oct 72, abstract No 10V598 by G. Tkachenko)

Translation: The paper deals with the problem of selecting optimum control strategy in a system made up of a main administrative board and an enterprise. This strategy should optimize both the jobs which are common to the entire system, and jobs which arise in individual links of the system. It is proposed that the problem of optimizing the activity of a production union be represented in the form of a set of separate problems to be solved in a certain sequence. The strong dependence on natural conditions dictated the use of a games approach.

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USSR

UDC 51

TYRMOS, V. I., and FONTANKINA, V. S.

"An Algorithm for Optimizing the 'Chief Enterprise' System"

Kiev, V sb. Prom. kibernetika (Industrial Cybernetics -- collection of works), 1971, pp 40-50 (from RZh--Matematika, No 10, 1972, Abstract No 10V598)

Translation: The problem is considered of choosing the optimal control strategy in the "chief enterprise" system. The result of the use of this strategy should be the optimization of general problems for the whole system as well as those problems arising in particular branches of the system. The author poses the problem of optimizing the activity of the production combine in the form of a combination of individual problems that can be solved in a definite sequence. A strong dependence on natural conditions prompted the use of the game approach. G. Tkachenko

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1/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--DEPENDENCE OF MAGNETOCRYSTAL ANISOTROPY ON FIELD STRENGTH IN HEXAGONAL BARIUM FERRITE -U-

AUTHOR-(03)-SHCHUROVA, A.D., PEREKALINA, T.M., FONTON, S.S.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58, NR 5, PP 1571-1573

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MAGNETIC ANISOTROPY, SINGLE CRYSTAL, MAGNETIZATION, BARIUM FERRITE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3002/0025 STEP NO--UR/0056/70/058/005/1571/1573

CIRC ACCESSION NO--AP0127675

UNCLASSIFIED

2/2 014 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0127675

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. A STRONG DEPENDENCE OF THE MAGNETIC ANISTROPY CONSTANT ON MAGNETIC FIELD STRENGTH H IS OBSERVED IN BASC SUB1.8 FE SUB10.2 O SUB19 SINGLE CRYSTALS. IN FIELDS H SMALLER THAN H SUBC THE CRYSTALS HAVE AN AXIS OF EASY MAGNETIZATION AND IN FIELDS H GREATER THAN H SUBC THEY POSSESS A PLANE OF EASY MAGNETIZATION. THE RESULTS ARE EXPLAINED ON BASIS OF A MODEL OF TWO MAGNETIC SUBLATTICES WITH WEAK EXCHANGE INTERACTION BETWEEN THEM.

FACILITY: INSTITUT KISTALLOGRAFII, AKADEMII NAUK SSSR.

UNCLASSIFIED

USSR UDC 621.382.002

2

GARBER, R.I., GNAP, A.K., KOZLOV, V.F., PISTRYAK, V.M., FOGEL', Ya.M., FEDORENKO, A.I.

"Mass Spectrometric Determination Of Impurity Profile Of Boron In Ion-Doped Single Crystals Of Silicon"

V sb. Radiats. fiz. nemet.kristallov. (Radiations Physics Of Nonmetallic Crystals--Collection Of Works), Vol 3, Part 2, Kiev, "Nauk.dumka," 1971, pp 143-148 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B458)

Translation: The impurity profile of atoms of boron implanted in monocrystalline silicon with various orientations was determined by the method of secondary ion-ionic emission. The scheme of the mass spectrometic arrangement is presented, as well as typical impurity profiles of barium in Si specimens. 3 ill. 7 ref. I.M.

1/1

USSR UDC: 531.36

FORMAL'SKIY, A.M., Moscow

"Stability of System With Dry Friction, Power Gyrostabilizer"

Moscow, Izvestiya Akademii Nauk SSSR, Mekhanika Tverdogo Tela, No 4, Jul/Aug 72, pp 15-23

Abstract: It is known that systems with dry friction have a set of equilibrium conditions. Control theory methods are used in this work to investigate the stability of the above set. Theorems are derived on conditions necessary for stability and for estimating the attraction region of the equilibrium condition set. It is shown that the attraction region can be estimated by plotting the so called controllability region. A single axis controllable power gyrostabilizer with dry friction in the axis is investigated; its "controllability region" is established. A two-axis gyrostabilizer with dry friction is also considered.

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USSR UDC: 629.78.062.2

FORMAL'SKIY, A. M.

"The Stability of a Relay System for Stabilizing the Motion of a Vehicle"

V sb. Nauchn. konferentsiya. In-t mekhan. MGU. Tezisy dokl. (Scientific Conference of the Institute of Mechanics of Moscow State University. Summaries of the Reports), Moscow, 1970, p 66 (from RZh-Raketostroyeniye, No 8, Aug 70, Abstract No 8.41.188)

Translation: The author considers plane disturbed motion of a vehicle described by a linear stationary system of fourth order. Stabilization of vehicle motion is realized by a relay law. An investigation is made into the problem of constructing in space the feedback factors of a region of values for which a closed system of regulation is asymptotically stable im Kleinen (region of stability). Necessary and sufficient conditions of asymptotic stability are found which allow constructing the stability region. If the damping force and lift of control surfaces are disregarded in the equations of motion, then the resultant conditions of stability depend on the arrangement of the control surfaces with respect to the center of gravity, and also on the lift factor, and are independent of the other characteristics of the vehicle. In the case where the angle of slip (attack) is not measured,

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FORMAL'SKIY, A. M., Nauchn. konferentsiya. In-t mekhan. MGU. Tezisy dokl., Moscow, 1970, p 66

and consequently does not appear in the law of control, an exhaustive analysis is made of the possible structure of the region of stability. In certain instances, sufficient stability conditions are found for which there is a simple analytical expression. It is shown that if the control surfaces are located in the center of pressure of the vehicle, it is uncontrollable in the Kalman sense. In this case, asymptotic stability of undisturbed motion cannot be realized for any law of stabilization, including relay law. The stability problem is solved as applied to stabilization of vehicle motion in the horizontal plane. However, with certain assumptions relating to the equations of motion, the results are applicable to the problem of stabilizing vehicle motion in the vertical plane as well. Resumé.

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USSR

UDC: 51

FORMANEK, Karel

"On the Theory of Irregular Deliveries"

Ekon.-mat. obz., 1973, 9, No 1, pp 30-50 (from RZh-Kibernetika, No 7, Jul 73, abstract No 7V548)

Translation: Several versions of simple models of inventory control with "undisciplined" supplier (orders are not filled on time or in insufficient quantity).

USSR UDC: 519.2

FORMANOV, Sh. K.

"Uniform Estimate of the Residual Term in a Multidimensional Limit Theorm for Homogeneous Markov Chains With Respect to the Class of All Measurable Convex Sets. II"

Izv. AN UzSSR. Ser. fiz.-mat. n. (News of the Academy of Sciences of the Uzbek SSR. Physics and Mathematics Series), 1972, No 6, pp 35-42 (from RZh-Kibernetika, No 5, May 73, abstract No 5V36 by the author)

Translation: Proofs are given for theorems formulated in the first part of the paper (RZhMat, 1972, 10V40). According to these theorems, the residual term in a multidimensional limit theorem has order $1/\sqrt{n}$ uniformly with respect to the class of all convex Borelian sets for homogeneous Markov chains with an arbitrary set of possible states.

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USSR UDC 519.2

FORMANOV, SH. K.

"Asymptotic Distribution of the Sum of Random Variables Linked into a Homogeneous Markov Chain on a Ray"

V sb. Sluchayn. protsessy i stat. vyvody (Random Processes and Statistical Conclusions--collection of works), Tashkent, Fan, 1971, pp 74-79 (from RZh-Kibernetika, No 12, Dec 72, Abstract No 12V18)

Translation: A study is made of a homogeneous Markov chain x_1, x_2, ..., with an arbitrary set of possible states Ω and the transfer probability function p(ω, A), ω∈Ω, A∈F_Ω where F_Ω is the σ-algebra of the subsets Ω. Let p(ω, A) satisfy the condition of uniform ergodicity, f(ω) be a real function, and F_Ω be a measurable function defined in Ω. Let us set

$$S_n = f(x_1) + f(x_2) + \dots + f(x_{n+1}), \quad a_n = P(S_n < 0),$$

$$\sigma^2 = \lim_{n \to \infty} M \left[\frac{1}{\sqrt{n}} \sum_{k=1}^{n} \left(f(x_k) - \int_{\Omega} f(\eta)\, p(d\eta) \right) \right]^2,$$

where p(·) is the stationary distribution the existence of which is insured by the condition of uniform ergodicity. F. Spitser proved convergence of the series

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USSR

FORMANOV, SH. K., Sluchayn. protsessy i stat. vyvody, Tashkent, Fan. 1971, pp 74-79

$$\sum_{n=1}^{\infty} \frac{1}{n} (a_n - 1/2)$$

for independent identically distributed random variables using the Tauber theorems. V. Rozen reinforced this result by proving the absolute convergence of the given series when the terms have finite dispersion. The convergence of the indicated series is important in connection with boundary problems for S_n, in particular, with the arc sine law. The following theorem is proved in this paper.

Theorem. Let $\sigma > 0$ and let the function $g(x) > 0$ exist such that

$$\lim_{x \to +\infty} g(x) = \infty, \quad \sup_{\omega} \int_{R} f^2(\eta) \times$$

$$\times g(|f(\eta)|) p(\omega, d\eta) < \infty. \text{ Then} \sum_{n=1}^{\infty} \frac{1}{n} |a_n - 1/2| < \infty.$$

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USSR

UDC 519.214

MAMATOV, M. and FORMANOV, SH. K.

"Generalization of Rosen's Results for Sums of a Random Number of Independent Random Variables"

Tashkent, Sluchayn. protsessy i smezhn. vopr.--Sbornik (Random Processes and Related Problems -- Collection of Works), Part 2, 1971, "Fan", pp 46-51 (from Referativnyy Zhurnal -- Matematika, No 9, Sep 71, Abstract No 9V61, by D. Sil'vestrov)

Translation: Suppose $\xi_1, \xi_2, \dots$ is a sequence of independent, indentically distributed random variables and suppose that for each $\lambda \geqslant 1$, ν_λ is a random variable independent of the sequence $\xi_1, \xi_2, \dots$ and taking on integral nonnegative values. Also suppose

$$S(n)=\sum_{k=1}^{n}\xi_k, \quad \alpha=M\nu_\lambda, \quad \gamma^2=D\nu_\lambda<\infty, \quad \lambda>1.$$

USSR

MAMATOV, M. and FORMANOV, SH. K., Sluchayn. protsessy i smezhn. vopr.--Sbornik, Part 2, 1971, pp 46-51

Upper bounds are obtained for the probabilities $p\{S(\nu_\lambda)$ $\in I_\lambda$ for different systems of intervals I_λ, $\lambda \geqslant 1$ on the assumption that $\alpha \to \infty$ as $\lambda \to \infty$. Moreover, for the case when $D\xi_1 < \infty$, $M\xi_1 = 0$, and on the assumption that $\alpha \to \infty$ and $\gamma = 0(\alpha)$ as $\lambda \to \infty$, conditions are obtained that are sufficient for the convergence of series of the type

$$\sum_{\lambda=1}^{\infty} \varphi(\lambda) \left| P\{S(\nu_\lambda)=0\} - \frac{1}{2} \right|$$

(here $\varphi(\lambda)$ is a nonrandom, nonnegative function).

USSR UDC: 519.214

MAMATOV, M., FORMANOV, Sh. K.

"Generalization of Rosen's Results for Sums of a Random Number of Independent Random Quantities"

V sb. Sluchayn. protsessy i smezhn. vopr. Ch. 2 (Random Processes and Related Problems--collection of works. Part 2), Tashkent, "Fan", 1971, pp 46-51 (from RZh-Kibernetika, No 9, Sep 71, Abstract No 9V61)

Translation: Let ξ_1, ξ_2,... be a sequence of independent identically distributed random quantities, and for each $\lambda \geqslant 1$ let ν_λ be a random quantity which does not depend on sequence $\xi_1, \xi_2, \ldots$ and which takes on non-negative whole-number values. Let also

$$S(n)=\sum_{k=1}^{n}\xi_k,\quad \alpha=M\nu_\lambda,\quad \gamma^2=D\nu_\lambda<\infty,\quad \lambda>1.$$

In this paper, estimates from above are found for the probabilities $P\{S(\nu_\lambda)\in I_\lambda\}$ for different systems of intervals I_λ, $\lambda \geqslant 1$, assuming that $\alpha\to\infty$ as $\lambda\to\infty$.

In addition, for the case where $D\xi_1<\infty$, $M\xi_1=0$, and assuming that $\alpha\to\infty$ and $\gamma=O(\alpha)$ when $\lambda\to\infty$, conditions are found which are sufficient for

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MAMATOV, M., FORMANOV, Sh. K., Sluchayn. protsessy i smezhn. vopr. Ch. 2, Tashkent, "Fan", 1971, pp 46-51

convergence of series of the type

$$\sum_{\lambda=1}^{\infty} \varphi(\lambda) \left| P\{S(\nu_{\lambda})=0\} - \frac{1}{2} \right|$$

Here $\phi(\lambda)$ is a non-random non-negative function. D. Sil'vestrov.

USSR

UDC 681.325.5

ZAKHARCHENKO, O. YE., KOCHUR, A. P., PETRUSHENKO, YE. I., and FORMOZOV, B. N.

"Cryotron Adder"

USSR Authors' Certificate No 306461, Cl. G06 f 7/50, filed 29 Sep 69, published 7 Sep 71 (from RZh-Avtomatika, Telemekhanika i Vychislitel'naya Tekhnika, No 5, May 72, Abstract No 5B243P)

Translation: Cryotron adders are well known. However, they are not economical in terms of energy consumption (use of direct current sources) they contain a large number of current-conducting buses which are a source of undesirable heat, and they have complex control and synchronization involving the need to combine two-line control to be applied to reset-logic circuits. The proposed adder is unique in that in it the production circuit is four logic elements of the NOT-OR and NOT-AND type, one of which controls the other; the carry generating circuit contains two logic elements -- NOT-OR-AND and NOT and each logic element takes the form of a superconducting self-excited storage loop. This makes it possible to simplify the control, reduce the number of current-conducting buses, and make the device more economical. The favorable effect is achieved by a circuit using an all one-line control according to an input variable; this does not require a special adjusting signal, and the feed requires a pulse current rather than direct current. Undamped current induced in the device itself is used to store and maintain the state of the cryotron adder.

USSR UDC 681.327.02

KOCHUR, A. P., FORMOZOV, B. N.

"A Cryotron Decoder"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, No 7, Mar 71, Author's Certificate No 292596, Division H, filed 20 Feb 69, published 4 Feb 71, p 214

Translation: This Author's Certificate introduces a cryotron decoder which contains series-connected load loops with controlling cryotron diodes, and series-connected code storage self-excitation loops with controlling cryotrons. As a distinguishing feature of the patent, the speed of the decoder is increased and the design is simplified by including the grids and diodes of the controlling cryotrons in the shunting circuits of the code loops and the load loops respectively.

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UDC 547.824+547.26'118

USSR

KUKHTA, Ye. P., and FOROSTYAN, Yu. N., Krym Agricultural Institute imeni M. I. Kalinina and the Zaporozh Branch of the Donets Institute of Soviet Commerce

"Studies of a Series of Dipiperidines. Part 14. Synthesis of Phosphorus Derivatives of Hexahydrodipiperidine"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 5, 1972, pp 1039-1041

Abstract: Compounds of the following types -- alkyl(N-hexahydrodiphyridyl) methyl chlorophosphate, -methylthiochlorophosphine, β-fluoroethyl chlorophosphate and -β-fluoroethyl thiochlorophosphate -- were synthesized in order to examine their potency as insecticides. Preparation involved the reaction of 2,2-; 3,3-; 4,4-; and 2,3-hexahydrodipyridines with the dichloroanhydrides of methylphosphoric, methylthiophosphoric, β-fluoroethylphosphoric, and fluoroethylthiophosphoric acids at -5° to 0°C in anhydrous ether. Physical data, elemental composition and major IR peaks are given for the ten compounds prepared.

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USSR UDC 547.824+547.26.118

KUKHTA, E. P., FOROSTYAN, YU. N., Zaporozh'e Branch of the Donetsk Institute of Soviet Commerce

"Synthesis of Some Phosphorus Derivatives of 3-)Piperidyl-2)-pyridine"

Ivanovo, IVuZ Khimiya i Khimicheskaya Tekhnologiya, vol 16, No 7, 1973, pp 1066-1068

Abstract: In attempts to prepare new insecticides, 3-(piperidyl-2)pyridine was reacted with PClXRR', where R = R' = CH_3, OCH_3, OC_2H_5, OC_3H_7, OC_4H_9, or $N(CH_3)_2$ and X = O or S. The yield of 3-[(1'-dialkyl(thio)phosphate)-piperidyl-2']pyridine, in absolute ether at 20-22°C, was 35 ro 80%. The products were separated by preparative chromotography on aluminum oxide as colorless liquids that rapidly darkened in air. The structures were confirmed by IR spectrography. The properties of the products are tabulated.

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Organophosphorous Compounds

USSR

UDC 547.824+547.26'118

FOROSTYAN, Yu. N., YEFIMOVA, Ye. I., KUKHTA, Ye. P., and SOROKA, I. I., Zaporozh'ye Branch of the Donetsk Institute of Soviet Trade, and the Crimean Agricultural Institute imeni M. I. Kalinin

"Study of a Series of Bipiperidines. X. Reaction of Hexahydrodipiperidines With Phosphoryl Chlorides"

Leningrad, Zhurnal Obshchey Khimii, Vol 41, No 11, Nov 1971, pp 2,438-2,441

Abstract: In light of the demonstrated alkylating action of diethyl chlorophosphate and diethyl chlorothiophosphate on pyridine, it was of interest to determine the nature of their reactions with hexahydrobipyridines, which contain both pyridine and piperidine rings. Eight 2,2'-, 3,3'-, 4,4'- and 3,2'-hexahydrobipyridines react with the acid chlorides of the diethyl ester of phosphoric and thiophosphoric acids at —15°C to form the corresponding complex compounds. At +20-22°C, the corresponding [1'-(diethyl phosphate and diethyl thiophosphate)piperidyl] pyridines. Formulas, basic physical data, yields, etc., of the end-products are given.

1/1

Nitrogen Compounds

USSR

UDC 547.544

FOROSTYAN YU. I., YEFIMOVA, YE. I., SOROKA, I. I., Zaporozh'ye Branch of Donets Institute of Soviet Trade

"Studies in the Bipiperidine Series. VIII. Synthesis of Diastereomers of 2,2'-Bipiperidine"

Leningrad, Zhurnal Organicheskoy Khimii, Vol 7, No 10, Oct 71, pp 2198-2201

Abstract: 2-(Piperidyl-2)pyridine can be obtained in 96-98 percent yield by the reduction of 2,2'-bipyridine with aluminum in boiling aqueous-alcoholic alkali. Hydrogenation of a boiling solution of 2-(piperidyl-2)pyridine with sodium in isoamyl alcohol results in the formation of a mixture of two diastereomeric 2,2'-bipiperidines--the erythro and threo isomers--in 82-83 percent yield. The separation of this mixture into individual isomers is accomplished by the action of excess ethyl chloroformate resulting in the formation of 2,2'-(1,1-dicarbethoxy) bipiperidines and 2,2'-1-carbethoxy)bipiperidine hydrochloride. The article lists analysis results and some properties of the resultant compounds.

1/1

USSR

F

UDC: 547.94:341

KUKHTA, YE. P., and FOROSTYAN, YU. N., Crimean Agricultural Institute imeni M. I. Kalinin, Simferopol, Ministry of Agriculture USSR

"Lupinin Esters of Certain Dialkylphosphoric Acids"

Tashkent, Khimiya Prirodnykh Soyedineniy, No 3, 1970, p 383

Abstract: Lupinin with m. p. 69° (petroleum ether) was prepared by saponification of O-acetyllupinin, isolated when total alkaloids of technical anabasin sulfate is acetylated with acetic anhydride. Upon reaction with lupinin, the acid chlorides $Cl-P(O)(OCH_3)_2$, $Cl-P(O)(OC_2H_5)_2$, $Cl-P(O)(OC_4H_9)$, etc. yielded esters of dialkylphosphoric and dialkylthiophosphoric acid for determination of insecticidal activity. Additionally, conditions for their separation on Al_2O_3 and also for chromatography in a thin unstabilized Al_2O_3 layer were found.

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1/2 008 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--PREPARATION OF LUPININE AND ANABASINE -U-

AUTHOR-(03)-FOROSTYAN, YU.N., YEFIMOVA, YE.I., KUKHTA, YE.P.

COUNTRY OF INFO--USSR

F

SOURCE--KHIM. PRIR. SOEDIN. 1970, 6(2), 276

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--PROCESSED PLANT PRODUCT, ALKALOID, FRACTIONATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3005/0453 STEP NO--UR/0393/70/006/002/0276/0276

CIRC ACCESSION NO--AP0132668
UNCLASSIFIED

CIRC ACCESSION NO--AP0132668

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LOW BOILING FRACTION OF ALKALOIDS FROM ANABASIS APHYLLA MAY BE SEPD. USING ACETYLATION WITH AC SUB2 O; THE ACETYL DERIVS. OF LUPININE (I) AND ANABASINE (II) MAY BE SEPD. AS A RESULT OF DIFFERENCES IN B.P. THUS, 500 G OF A MIXT. OF ALKALOIDS FROM TECHN. II.H SUB2 SO SUB4 WAS MIXED WITH 320 G AC SUB2 O WITH STIRRING AND COOLING AND THE MIXT. HEATED FOR 10 HR AND FRACTIONATED. THE ACETYL DERIV. OF I WAS OBTAINED AS THE FIRST FRACTION, B SUB2 115-17DEGREES, N PRIME20 SUBD 1.5550, (93PERCENT). SAPON. WITH 25PERCENT NAOH FOR 1 HR GAVE FREE I, M. 68-9DEGREES. THE SECOND FRACTION, B SUB2 198-200DEGREES (ACETYL DERIV. OF II) GAVE AFTER HYDROLYSIS WITH 25PERCENT H SUB2 SO SUB4 (6 HR) PURE II, B SUB1 105-6DEGREES (85PERCENT). APHYLLIDINE AND APHYLLINE WERE NOT ISOLATED FROM THE TARS. FACILITY: ZAPOROZH. FILIAL, DONETS. INST. SOV. TORG., ZAPOROZHE, USSR.

USSR

UDC 632.951

KUKHTA, Ye. P., MASHCHENKO, N. D., FOROSTYAN, Yu. N., and TSVETOVA, N. T., Crimean Agricultural Institute

"The Toxicity of a Number of New Amides of Phosphoric Acids for the Crimean Grape Snout Beetle"

Moscow, Khimiya v Sel'skom Khozyaystve, Vol 10, No 6, 1972, pp 40-43

Abstract: Laboratory and field tests were conducted to determine the toxicity of the new amides in comparison with known insecticides. In the laboratory test 50 beetles were placed in each of a number of Petri dishes, grape leaves were added for feed, then the insecticide being tested was applied in recommended concentrations. During the experiment the Petri dishes were placed in a cupboard with forced ventilation, to remove any fumigating effect. The temperature was maintained at 20-22° C and the humidity at 70-80%. In the laboratory tests the preparations gardona, cidial and metaphosphate of known insecticides, and the new compounds KF-4, KF-3 and KF-2 proved most effective. In the field tests the best results were obtained with cidial, metaphosphate, metathion, and the new compound KF-4. Dead beetles from each test were pulverized in porcelain crucibles and insecticide residue was collected along with other elements. Evidence of the precise action of the insecticides and the formation of choline was also found by this method.

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USSR UDC: 669.71.472

FORSBLOM, G. V., SEMENOV, V. S., SMORODINOV, A. N., PARAMONOV, S. A., BARABANOV, P. S.

"Artificial Cooling as a Method of Intensification of the Operation of Aluminum Electrolyzers"

Tr. Vses. N.-I. i Proyekt. In-ta Alyumin., Magn. i Elektrod. Prom-sti [Works of All-Union Scientific Research and Planning Institute for the Aluminum, Magnesium and Electrode Industry], 1972, No 82, pp 15-25 (Translated from Referativnyy Zhurnal Metallurgiya, No 8, 1973, Abstract No 8G169, by G. Svodtseva).

Translation: Tests were performed at one plant of a group of electrolyzers, equipped with various artificial cooling systems. The effectiveness of the cooling was estimated on the basis of full thermal and energy balances. The maximum increase in thermal losses amounted to 50-55,000 watts. The increase in yield per current in cooled electrolyzers was facilitated by thicker and more constant linings. The transfer of metal in cooled electrolyzers was 1.5-2 cm less than in ordinary electrolyzers. The mean parameters of the technological mode and data on the yield per current and consumption of electric power are presented. The use of a forced electrolyzer can facilitate the

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USSR

Forsblom, G. V., Semenov, V. S., Smorodinov, A. N., Paramonov, S. A., Barabanov, P. S., Tr. Vses. N.-I. i Proyekt. In-ta Alyumin., Magn. i Elektrod. Prom-sti, 1972, No 82, pp 15-25.

solution of the important economic problem of utilization of daily and seasonal excesses in electric power plant capacity.

2/2

USSR UDC 669.71.472

SEMENOV, V. S., FORSBLOM, G. V., TSYPLAKOV, A. M., YAKUNIN, N. P.

"Study of the Coefficient of Heat Transfer from the Electrolyte to the Lining in Industrial Aluminum Electrolyzers"

Tr. Vses. n.-i. i proyektn. in-ta alyumin., magn. i elektrodn. prom-sti (Works of the All-Union Scientific Research and Planning and Design Institute of Aluminum, Magnesium and Electrode Industry), 1970, No 71, pp 63-68 (from RZh-Metallurgiya, No 4, Apr 71, Abstract No 4G167)

Translation: A procedure has been developed and an instrument designed to measure the coefficient of heat transfer from the electrolyte to the lining in industrial aluminum electrolyzers. Measurements have been taken. The magnitude of the heat transfer coefficient varies from 300-400 to 1,200 watts/m^2-deg and more depending on the distance of the measurement point from the anode and its location along the perimeter. Equations are derived for the heat transfer coefficient as a function of the temperature head under the conditions of natural convection and the circulation rate of the electrolyte with forced movement of it. The circulation rate of the electrolyte is calculated, and its dependence on the distance from the anode is demonstrated. There are 3 illustrations.

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USSR UDC 669.71.472

MIKHAYLOV, P. M., KULAKOV, A. I., KASHKO, Yu. G., FORSBLOM, G. V.

"Basic Conditions of Modeling of Gas Hydrodamics in Aluminum Electrolyzers"

Tr. Vses. N-i. i Proyektn. In-ta. Alyumin., Magn. i Elektrodn. Prom-sti [Works of All-Union Scientific Research and Planning Institute of the Aluminum, Magnesium and Electrode Industry], 1970, No. 71, pp. 94-110. (Translated from Referativnyy Zhurnal Metallurgiya, No. 5., 1971, Abstract No. 5 G157 by the authors).

Translation: Based on the theory of similarity, gas hydrodynamics similarity criteria in aluminum electrolyzers are developed considering the mechanism of gas formation on the anode. The provision of similarity conditions on models of decreased size is practically impossible. However, the problem is simplified when limiting modes of typical bubble or film flow of anode gases are studied. Furthermore, investigations can be performed using models of individual aspects of gas hydrodynamics, for example, studies of the flow of anode gases and melt in the central areas of the electrolyzer, the circulation of melt between anode and bath side, etc. 6 biblio refs.

1/1

1/2 012 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--INTRINSIC ELECTRICAL STRENGTH OF A POLYPROPYLENE FILM -U-

AUTHOR-(02)-RENNE, V.T., FORSILOVA, I.D.

F

COUNTRY OF INFO--USSR

SOURCE--VYSOKOMOL. SOEDIN., SER. B 1970, 12(5), 358-60

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--PLASTIC FILM, DIELECTRIC STRENGTH, MEASUREMENT, POLYPROPYLENE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3006/1237 STEP NO--UR/0460/70/012/005/0358/0360

CIRC ACCESSION NO--AP0134911
UNCLASSIFIED

2/2 012 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0134911

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EXPTL. VALUE OF THE ELEC. STRENGTH OF DEFECT FREE POLYPROPYLENE FILM WAS 4140 KV PER CM COMPARED TO A THEORETICAL VALUE OF 4800 KV PER CM. FACILITY: POLITEKH. INST. IM. KALININA, LENINGRAD, USSR.

UNCLASSIFIED

USSR UDC 533.951

LAMAKIN, B. N., FORTOV, V. Ye.

"Pulse Roentgenography of Shock Waves in Dense Cesium Vapors"

Teplofizika Vysokikh Temperatur, Vol 9, No 6, 1971, p. 1291-1293.

Abstract: Compression and irreversible heating of Cs vapors in a shock wave is an effective means of studying the properties of a strongly non-ideal cessium plasma. However, the optical density of the plasma thus produced prevents the use of the well-developed optical methods of study. This article presents a calculation of the X-radiation density required to study shock waves in dense cessium plasma. The required radiation density can be achieved only in the pulse mode of operation of x-ray apparatus. An oscillogram of the absorption of x-radiation by a plasma behind a shock wave is presented, illustrating that it is possible to produce a reflected shock wave, which is particularly important for the investigation of a strongly non-ideal plasma.

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1/2 063 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--POSSIBILITIES OF A SHOCK TUBE IN OBTAINING AND STUDYING A DENSE LOW TEMPERATURE PLASMA -U-

AUTHOR-(03)-LOMAKIN, B.N., FORTOV, V.E., SHCHEKOTOV, O.E.

COUNTRY OF INFO--USSR

SOURCE--TEPLOFIZIKA VYSOKIKH TEMPERATUR, VOL. 8, JAN.-FEB. 1970, P.154-158

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--DENSE PLASMA, LOW TEMPERATURE PLASMA, SHOCK TUBE, CESIUM, SHOCK WAVE PROPAGATION, THERMODYNAMIC ANALYSIS, COMPUTER CALCULATION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1992/0381 STEP NO--UR/0294/70/008/000/0154/0158

CIRC ACCESSION NO--AP0111574

UNCLASSIFIED

2/2 063 UNCLASSIFIED PROCESSING DATE--13NOV70

CIRC ACCESSION NO--AP0111574

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THEORETICAL ANALYSIS OF THE POSSIBILITY OF OBTAINING A DENSE LOW TEMPERATURE CESIUM PLASMA IN A SHOCK TUBE WITH HEATING. THE PROPAGATION OF A DIRECT AND REVERSE SHOCK WAVE IN CESIUM VAPOR IS CALCULATED, TAKING INTO ACCOUNT THE PLASMA NONIDEALITY BY APPLYING THE DEBYE THEORY IN A LARGE CANONIC ENSEMBLE. A SYSTEM OF EQUATIONS DESCRIBING THE CONSERVATION OF MASS, MOMENTUM AND ENERGY AT THE SHOCK WAVE IS INTEGRATED WITH THERMODYNAMIC EQUATIONS ON A COMPUTER. OPTIMAL EXPERIMENTAL CONDITIONS FOR OBTAINING SUCH PLASMAS ARE OBTAINED AS A RESULT.

UNCLASSIFIED

USSR UDC 621.791.762.5:536.2

KRIVENKO, V. G., Candidate of Technical Sciences, and DOBROVOL'SKIY, V. P., GORSHKOV, A. P., and FORTUNATOVA, N. N., Engineers, Institute of Electric Welding imeni Ye. O. Paton, Academy of Sciences Ukrainian SSR

"Heating Type EP199 Heat-Resistant Alloys in Resistance Welding with Impulse Fusion"

Kiev, Avtomaticheskaya Svarka, No 2, Feb 74, pp 12-15

Abstract: The effect of the basic parameters of the impulse fusion process on heating the ends of parts prior to upsetting were studied and the values of these parameters, ensuring a minimum welding time, were determined in the welding of type EP199 heat-resistant alloys. The Hartley-Kono scheme was used in this work for selecting the controlling and output parameters. It was found that in resistance welding of heat-resistant alloys by impulse fusion with low-frequency vibrations (up to 5 hz), the heating of parts is determined by the main control parameters and to a large degree by their interaction. The optimum values of the vibration parameters in welding EP199 alloys were vibration amplitude A = 1-1.3 mm and vibration frequency f = 3-4 hz. The required temperature of not less than 1000° C at the upset zone boundary can be achieved in 90 seconds, which is 50% less in comparison with continuous preheating prior to welding. Three figures, two tables, four bibliographic references. 1/1

1/2 038 UNCLASSIFIED PROCESSING DATE--27NOV70
TITLE--TOXICITY OF TETRAMETHYLTHIURAM DISULFIDE -U-

AUTHOR-(03)-GLADENKO, I.N., FORTUSHNYY, V.A., DIRENKO, P.M.

COUNTRY OF INFO--USSR

SOURCE--VISN. SIL'S'KOGOSPOD. NAUKI 1970, 13(1), 106-9

DATE PUBLISHED-------70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--ORGANIC SULFUR COMPOUND, FUNGICIDE, TOXICITY, CENTRAL NERVOUS SYSTEM, EYE, RESPIRATORY SYSTEM, DIGESTIVE SYSTEM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3007/1975 STEP NO--UR/0534/70/013/001/0106/0109

CIRC ACCESSION NO--AP0137154
UNCLASSIFIED

2/2 038 UNCLASSIFIED PROCESSING DATE--27NOV70
CIRC ACCESSION NO--AP0137154
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. TETRAMETHYLTHIURAM DISULFIDE (I), A FUNGICIDE, DISTRUBS THE FUNCTION OF THE CENTRAL NERVOUS SYSTEM IN HUMANS AND ANIMALS. THE MUCOUS MEMBRANE OF THE EYES, THE RESPIRATORY TRACT AND THE GASTROINTESTINAL TRACT ARE IRRITATED. TOXICITY TO RABBITS WAS FOUND WITH I.V. INJECTION OF 50-100 MG I-KG LIVE WT. FEEDING TO CATTLE WITH CORN FOR 2 MONTHS AT 380 MG-KG FODDER HAD NO ADVERSE EFFECTS. FACILITY: UKR. NAUK.-DOSLID. INST. EKSP. VET., USSR.

UNCLASSIFIED

USSR UDC 612.396.677.7

FOSHIN, G.G., TOLPOLAR', Sh. Ye.

"Excitation of a Spirally Conducting Cone"

Moscow, Radiotekhnika i Elektronika, Vol 15, No 12, Dec 70, pp 2496-2503

Abstract: Kontorovich-Lebedev integral transformation is used to find a strict solution for the problem of symmetric electrical dipole excitation of a conical surface which is ideally conductive along hyperbolic spirals. It is shown that the spectrum of waves excited in this system consists of an infinite set of homogeneous space waves and a single nonhomogeneous elliptically polarized delayed wave which propagates with variable phase velocity over the surface of a cone. Relationships are found between the parameters of a conical spiral and the frequency of the oscillator for which these waves exist. The investigation of the electrodynamic properties of hyperbolic spirals makes it possible to extend the results to arithmetical and logarithmic spirals which are widely employed in antenna technology since certain parameters bring the hyperbolic spiral close to an arithmetical or logarithmic spiral.

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USSR UDC 621.357.7.035.4:699.587(088.8)

TODT, KHANS GYUNTER, AND FOSS, GYUNTER, Sharing Co., West Berlin, Germany

"An Acid Electrolyte for Galvanizing"

Author's Certificate No 330640, filed 10 Apr 70, published 7 Apr 72 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L303P by V. N. Titova)

Translation: An electrolyte is patented for depositing a shiny galvanizing coat. It is improved in that to obtain the shine and pliability for large thicknesses of the zinc film, an aromatic ketone is added to the composition of the acid galvanizing electrolyte. The proposed electrolyte has the following composition, in g/liter: the zinc salt, 50-200; NH_4Cl, 50-300; polyethylene glycol, 0.1-20; the aromatic ketone, 0.01 - 5; a pH of 3-6 with an optimum range of 4.5 to 5.5; a temperature of 10-45°; and D_k 0.1-10 amps/decimeter^2. The solution is mixed either by air or by stirring with a cathode. The following series of compounds may be used for the aromatic ketone: acetophenone, ethylphenolketone, propiophenone, benzylacetone, 2-hydroxybenzalacetone, benzoylacetonitrile, 3-acetylpyridine, 2-benzoylpyridine, the ethyl ether of benzoylacetic acid, 3-acetylcoumarin, thienyldenacetone and others.

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USSR

TODT, et al., Author's Certificate No 330640, filed 10 Apr 70, published 7 Apr 72

Other brighteners may be used in the electrolyte, for example, thio compounds, high molecular compounds, aromatic aldehydes, and also non-frothing surface active compounds in particular, short chain alkyl sulfates, For example, in g/liter: $ZnCl_2$,150; NH_4Cl,175; polyethylene glycol (average molecular weight of 4000), 2.0; 3-acetylcourmarin 0.2; salicylic acid (the potassium salt), 4.0; pH of 4.8; temperature 20°; D_k 5.0 amps/decimeter^2; and an injection of air.

USSR

UDC 547.26'118

FOSS, V. L., VEYTS, YU. A., and LUTSENKO, I. F.

"New Method for Preparing Dialkoxiphosphines"

Leningrad, Zhurnal Obshchey Khimii, Vol 42(104), Vyp 4, 1972, p 954

Abstract: Dialkoxyphosphines can be prepared by reducing dialkyl chlorophosphite with lithium and sodium borohydrides. Dibutoxyphosphine was prepared in this manner and the structure verified. The advantages of this method are a reduction in reaction time from 2-6 days to 20-30 minutes and organic tin hydrides can be substituted for the lithium and sodium reagents.

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USSR UDC 547.26'118

FOSS, V. L., VEYTS, YU. A., KUDINOVA, V. V., BORISENKO, A. A., and
LUTSENKO, I. F., Moscow State University Imeni M. V. Lomonosov

"Synthesis of Alkylalkoxydiphosphines"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 5, May 73, pp 1000-1006

Abstract: The synthesis of a new type of unsymmetric diphosphines containing alkyl(aryl) and alkoxy(aryloxy) groups was developed. The first method is based on the reaction of dialkoxyphosphines with dialkylchlorophosphines in organic solvents (petroleum ether, benzene, diethyl ether, dimethoxyethane) and in presence of tertiary amines. This is an exothermic reaction, completed in 2-3 hrs. The second method is much slower, requiring several days for completion. It is based on the reaction of dialkyl(aryl)phosphines with dialkyl(aryl) chlorophosphites under similar reaction conditions. Raising the reaction temperature does not help, since it leads to the formation of high-boiling byproducts.

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USSR

UDC 547.558.1.07

FOSS, V. L., VEYTS, YU. A., LUTSENKO, I. F., Moscow State University imeni M. V. Lomonosov

"A Method of Making Dialkoxyphosphines"

Moscow, Otkrytiya, Izobreteniya, Pr myshlennyye Obraztsy, Tovarnyye Znaki, No 15, Apr 73, Author's Certificate No 374326, Div C, filed 9 Jul 71, published 14 Jul 73, p 53

Translation: This Author's Certificate introduces: 1. A method of making idalkoxyphosphines by reducing dialkyl chlorophosphites with subsequent recovery of the goal product by conventional methods. As a distinguishing feature of the patent, the process is simplified by using a boric hydride of an alkali metal as the reducing agent and carrying out the process in the presence of a tertiary amine such as trimethylamine in an organic solvent. 2. A modification of this method distinguished by the fact that dimethoxyethane or tetrahydrofuran is used as the organic solvent.

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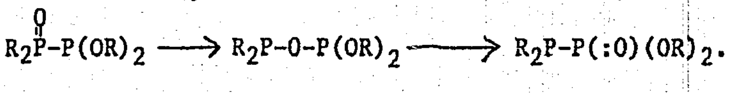
USSR UDC 547.26'118

VEYTS, Yu. A., BORISENKO, A. A., FOSS, V. L., and LUTSENKO, I. F., Moscow State University Imeni M. V. Lomonosov

"A New Rearrangement Among Organophosphorus Compounds"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 2, Feb 73, pp 440-441

Abstract: Oxidation of 1,1-diisopropyl-2,2-dibutoxydiphosphine with HgO gives a single product 1,1-diisopropyl-2,2-dibutoxydiphosphine, whose structure was confirmed by NMR ^{31}P analysis. The assumption was made that this unexpected result -- oxidation of the less basic "phosphite" center of the diphosphine may be a result of a rearrangement of an intermediate, direct oxidation product:



$$R_2\overset{O}{\overset{\|}{P}}\text{-}P(OR)_2 \longrightarrow R_2P\text{-}O\text{-}P(OR)_2 \longrightarrow R_2P\text{-}P(:O)(OR)_2.$$

1/1

1/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70

TITLE--PURIFICATION OF LEUCOPARAFUCHSINE -U-

AUTHOR-(05)-ILMUSHKIN, V.M., LAZARENKO, L.I., KHOMENKO, V.V., KOLCHEV,
V.O., FOTCHENKO, A.S.
F
COUNTRY OF INFO--USSR

SOURCE--U.S.S.R. 266,977
REFERENCE--OTKRYTIYA, IZOBRET., PROM. OBRAZTSY, TOVARNYE ZNAKI 1970,
DATE PUBLISHED--01APR70

SUBJECT AREAS--CHEMISTRY, BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--CHEMICAL PATENT, CHEMICAL PURIFICATION, BIOLOGIC PIGMENT, DYE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3004/1809 STEP NO--UR/0482/70/000/000/0000/0000

CIRC ACCESSION NO--AA0132075
UNCLASSIFIED

CIRC ACCESSION NO--AA0132075

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. LEUCOPARAFUCHSINE (I) WAS PURIFIED BY TREATING TECH. I WITH HCL AND NACL IN THE PRESENCE OF 5-20PERCENT NA SUB2 S SUB2 O SUB4.2H SUB2 O (ON THE WT. OF I) AT 20-110DEGREES. THE RESULTING I.3HCL WAS FILTERED, DISSOLVED IN DISTD. WATER IN THE PRESENCE OF AACTIVATED C, AND REFILTERED. THE RESULTING FILTRATE WAS TREATED WITH NH SUB4 OH AND PURE I FILTERED AND DRIED.

USSR UDC [537.226 + 537.311.33] : [537 + 535]

KOLODIYEVA, S. V., FOTCHENKOV, A. A., KHADZHI, V. Ye.

"Anomalous Dielectrical Dispersion in Synthetic Quartz Monocrystals"

Khar'kov, V sb. Monokristally i tekhnika (Monocrystals and Engineering -- collection of works) No 4, 1971, pp 149-155 (from RZh-Fizika, No 11, 1971, Abstract No 11E881)

Translation: It is shown experimentally that the relaxation processes in monocrystals of synthetic quartz cannot be considered as purely Debye processes. The observable anomalies of the dielectric dispersion are considered from the position of the interaction of the electrically active impurity defects of the Al/R type of P centers (R-Li, Na, K) with the electrically inactive complexes of the nonstructured phase, the extent of which is determined in the crystal by its growth conditions.

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USSR UDC 621.375.8

FRIDRIKHOV, S. A., FOTIADI, A. E., and YELAGIN, V. V.

"Investigation of the Radiation Intensity of an Argon Laser With an Argon Cell Inside the Resonator"

Minsk, Zhurnal Prikladnoy Spektroskopii, Vol 15, No 3, Sep 71, pp 539-542

Abstract: The authors cite the results of an experimental investigation of the radiation intensity of a continuous argon laser with an argon cell inside the resonator. They found that, depending on the argon pressure in the cell, it reveals either amplifying or absorbing properties. They also established that increasing the discharge current in the cell leads to an amplification of the observable effect (amplification and absorption) determined by the pressure. Three figures are used to graphically demonstrate their findings. Figure 1 shows the dependence of amplification and absorption on discharge current in the cell. Figure 2 shows the same dependence for intensity of laser radiation rather than for argon pressure. Figure 3 is a graphic illustration of the amplification and absorption as a function of laser radiation intensity for discharge currents in the cell. As a result of the investigation the authors established the possibility of designing an argon laser using an argon, nonlinearly absorbing cell; they found that the argon

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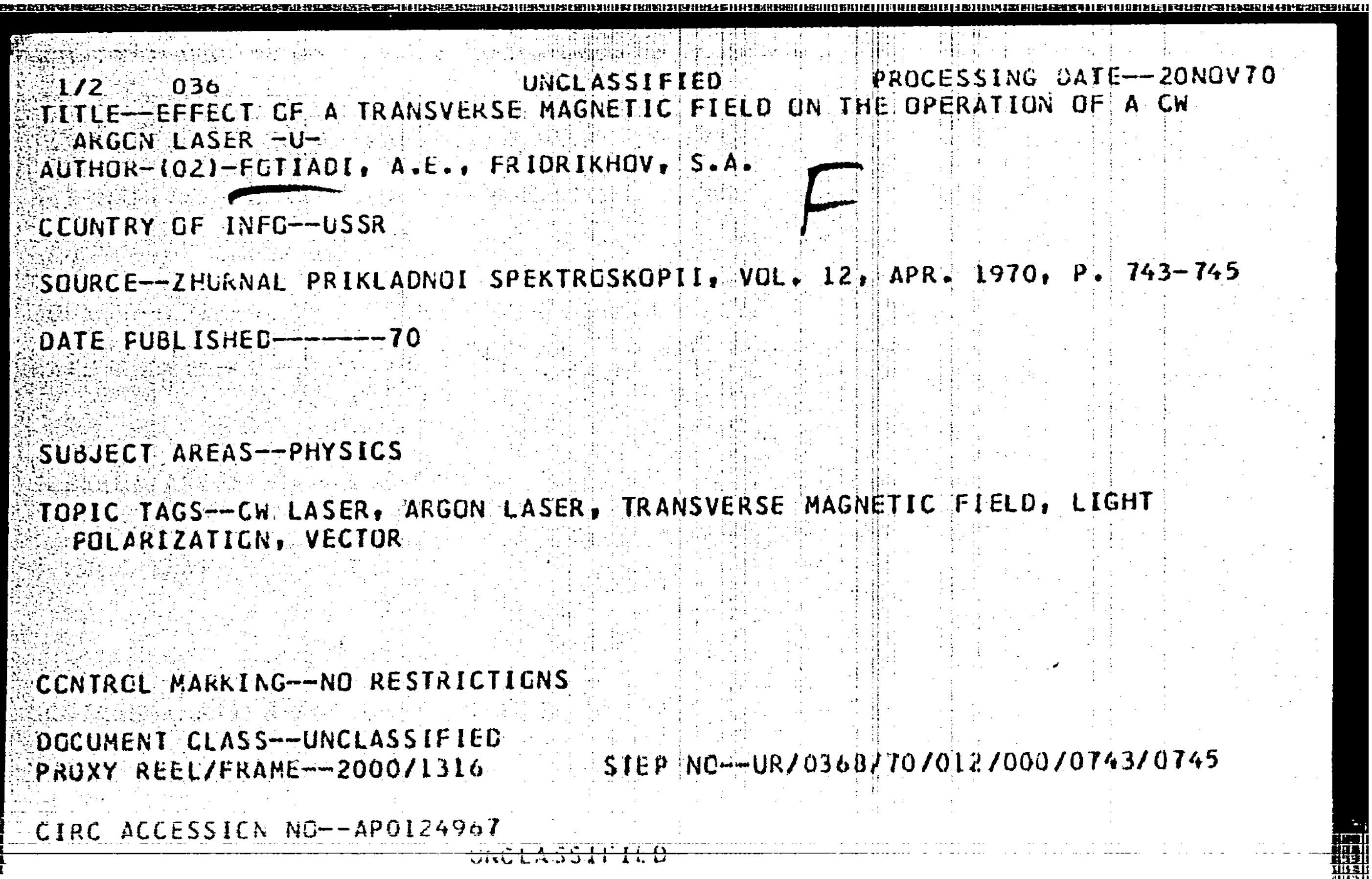
USSR

FRIDRIKHOV, S. A., et al., Zhurnal Prikladnoy Spektroskopii, Vol 15, No 3, Sep 71, pp 539-542

atmosphere begins to exhibit absorption properties at pressures greater than 1.1 mm Hg; at pressures on the order of 1.1 mm Hg the Ar discharge in the 3 mm capillary is transparent to radiation at λ = 4880 Å, thus indicating an approximate equality of the lifetime of the 4p and 4s states of the Ar ion. The article contains 3 illustrations and 6 bibliographic entries.

2/2



1/2 036 UNCLASSIFIED PROCESSING DATE--20NOV70

TITLE--EFFECT OF A TRANSVERSE MAGNETIC FIELD ON THE OPERATION OF A CW ARGON LASER -U-

AUTHOR-(02)-FOTIADI, A.E., FRIDRIKHOV, S.A.

F

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL PRIKLADNOI SPEKTROSKOPII, VOL. 12, APR. 1970, P. 743-745

DATE PUBLISHED--------70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--CW LASER, ARGON LASER, TRANSVERSE MAGNETIC FIELD, LIGHT POLARIZATION, VECTOR

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--2000/1316 STEP NO--UR/0368/70/012/000/0743/0745

CIRC ACCESSION NO--AP0124967

UNCLASSIFIED

2/2 036 UNCLASSIFIED PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0124967

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. DISCUSSION OF CERTAIN ASPECTS OF THE EFFECT OF A TRANSVERSE MAGNETIC FIELD ON THE OPERATION OF AN ARGON LASER WITH BREWSTER WINDOWS. IT IS SHOWN THAT, REGARDLESS OF THE ORIENTATION OF THE BREWSTER WINDOWS, THE RADIATION OF SUCH A LASER REMAINS LINEARLY POLARIZED, THE DIRECTION OF POLARIZATION BEING DETERMINED BY THE ORIENTATION OF THE BREWSTER WINDOWS RELATIVE TO THE MAGNETIC FIELD STRENGTH VECTOR. IN COMPARING THE DEPENDENCES OF THE OUTPUT POWER ON THE LONGITUDINAL AND TRANSVERSE MAGNETIC FIELD STRENGTHS, IT IS NOTED THAT THE INCREASE IN RADIATION INTENSITY OCCURRING DURING A CHANGE IN THE STRENGTH OF EITHER A LONGITUDINAL OR TRANSVERSE MAGNETIC FIELD FROM ZERO TO 90 OE CANNOT BE ATTRIBUTED MERELY TO AN INCREASE IN THE NUMBER OF DIPS ON THE AMPLIFICATION CONTOUR. IT IS CONCLUDED THAT THIS INCREASE IS RELATED TO A CERTAIN HITHERTO UNKNOWN MECHANISM WHICH LEADS TO AN INCREASE IN THE AMPLIFICATION FACTOR OF IONIZED ARGON IN SMALL MAGNETIC FIELDS.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--02OCT70

TITLE--NEOTECTONICS, RECENT MOVEMENTS OF THE EARTH'S CRUST AND THE MOHO
DISCONTINUITY -U-

AUTHOR-(02)-FOTIADI, E.E., KARATAYEV, G.I.

F

COUNTRY OF INFO--USSR

SOURCE--GEOLOGIYA I GEOFIZIKA, 1970, NR 4, PP 87-97

DATE PUBLISHED-------70

SUBJECT AREAS--EARTH SCIENCES AND OCEANOGRAPHY

TOPIC TAGS--EARTH CRUST MOVEMENT, SEISMIC SOUNDING, VERTICAL EARTH CRUST
MOVEMENT, ISOSTASY, EARTH CRUST DEFORMATION, TECTIONICS, MOHOROVICIC
DISCONTINUITY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1994/0054 STEP NO--UR/0210/70/000/004/0087/0097

CIRC ACCESSION NO--AP0114450

UNCLASSIFIED

2/2 006 UNCLASSIFIED PROCESSING DATE--02OCT70
CIRC ACCESSION NO--AP0114450
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BASED UPON ANALYSIS OF THE DATA ON RECENT NEOTECTONIC MOVEMENTS OF THE EARTH'S CRUST, DEEP SEISMIC SOUNDING AND PRE CENOZOIC TECTONICS THE GOOD AGREEMENT BETWEEN RECENT VERTICAL AND NEW CRUSTAL MOTIONS IS ESTABLISHED BOTH IN REGIONAL PLAN AND IN DETAILS, REVERSIBLE CORRELATION OF MOHO DISCONTINUITY RELIEF WITH RECENT CRUSTAL MOVEMENTS IS ALSO SHOWN. THE ACTIVE PROCESSES OF EARTH'S SURFACE ELEVATION ARE SUPPOSED TO BE LEADING PROCESSES IN THE FORMATION OF THE PRESENT APPEARANCE OF BOTH SURFACES. THESE PROCESSES ARE CAUSED BY TEMPERATURE DEFORMATIONS AND ASPIRATION OF THE EARTH'S CRUST TO ISOSTASY. IN ADJACENT AREAS THE LISTED MOTIONS ARE THE PASSIVE CONSEQUENCES OF THE PROCESSES OF THERMOELASTIC AND VISCOUS DEFORMATIONS.
FACILITY: IGIG SO AN SSSR, NOVOSIBIRSK.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70
TITLE--MECHANISM OF THE FORMATION OF VANADIUM VRONZES OF THE MV SUB12 O
SUB30 TYPE IN V SUB2 O SUB5 MV SUB2 O SUB6 SYSTEMS ,M EQUALS CALCIUM,
AUTHOR-(02)-FOTIYEV, A.A., VOLKOV, V.L.

COUNTRY OF INFO--USSR

F

SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 935-8

DATE PUBLISHED--------70

SUBJECT AREAS--MATERIALS

TOPIC TAGS--BRONZE, VANADIUM CONTAINING ALLOY, CALCIUM CONTAINING ALLOY,
STRONTIUM CONTAINING ALLOY, BARIUM CONTAINING ALLOY, CADMIUM CONTAINING
ALLOY, ACTIVATION ENERGY

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--3001/0386 STEP NO--UR/0078/70/015/004/0935/0938

CIRC ACCESSION NO--AP0120141
UNCLASSIFIED

2/2 021 UNCLASSIFIED PROCESSING DATE--20NOV70
CIRC ACCESSION NO--AP0126141

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE FORMATION OF THESE BRONZES IN VACUUM SHOWS A LIMITING STAGE OF ION DIFFUSION WHILE IN THE SYSTEM WHERE M EQUALS CD A DIRECT CHEM. REACTION TAKES PLACE. THE APPARENT ACTIVATION ENERGIES ARE 52, 57, 62, AND 62 KCAL-MOLE FOR SYSTEMS HAVING M EQUALS CA, SR, BA, AND CD, RESP. AT 200DEGREES, AN ALPHA YIELDS BETA TRANSITION TAKES PLACE IN CD METAVANADATE. DISORDER IN A SYSTEM ENHANCES DIFFUSION OF IONS AND, THEREFORE, IN THE SYSTEM WHERE M EQUALS CD, THE REACTION TAKES PLACE IMMEDIATELY. FACILITY: INST. KHIM., SVERDLOSK, USSR.

UNCLASSIFIED

1/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--STRUCTURAL FEATURES OF PRODUCTS OF THE HYDROLYTIC PRECIPITATION OF VANADIUM, V -U-
AUTHOR-(02)-FOTIYEV, A.A., TOLSTOV, L.K.

COUNTRY OF INFO--USSR

SOURCE--ZH. NEORG. KHIM. 1970, 15(4), 1011-15

DATE PUBLISHED-------70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--VANADIUM, CHEMICAL PRECIPITATION, VANADATE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1999/1087 STEP NO--UR/0078/70/015/004/1011/1015

CIRC ACCESSION NO--AP0123080
UNCLASSIFIED

2/2 008 UNCLASSIFIED PROCESSING DATE--13NOV70
CIRC ACCESSION NO--AP0123080

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PRODUCTS OF HYDROLYTIC PPTN. OF V(V) FROM LI, NA, AND K METAVANADATE SOLNS. AT VARIOUS H PRIME POSITIVE-VO SUB3 PRIME NEGATIVE RATIOS WERE STUDIED BY IR SPECTROSCOPY. TWO TYPES OF PPT. WERE OBTAINED: A PPT. HAVING A STRUCTURE ANALOGOUS TO AMORPHOUS VO SUB5 WITH AN APPARENT PRESENCE OF VO SUB2 PRIME POSITIVE AND A PPT. HAVING THE STRUCTURE OF HEXAVANADATE. THE 1ST TYPE PPT. HAD OH SUBN GROUPS (3610-3600 CM PRIME NEGATIVE1). SAMPLES DRIED IN ATM. HAD SORBED H SUB2 O AND H SUB2 O OF CRYSTN.

UNCLASSIFIED

1/2 034 UNCLASSIFIED PROCESSING DATE--23OCT70

TITLE--TEMPERATURE EFFECT ON OXYGEN PRESSURE DURING THE FORMATION OF CALCIUM VANADIUM BRONZE -U-

AUTHOR-(03)-VOLKOV, V.L., FOTIYEV, A.A., NEUYMIN, A.D.

F

COUNTRY OF INFO--USSR

SOURCE--ZH. FIZ. KHIM. 1970, 44(3), 609-12

DATE PUBLISHED-------70

SUBJECT AREAS--MATERIALS, PHYSICS

TOPIC TAGS--VANADIUM, BRONZE, ENTROPY, THERMODYNAMIC PROPERTY, ELECTROMOTIVE FORCE

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--1996/1892 STEP NO--UR/0076/70/044/003/0609/0602

CIRC ACCESSION NO--AP0118854

UNCLASSIFIED

CIRC ACCESSION NO--AP0118854

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. BY EMF. MEASUREMENTS THE TEMP. DEPENDENCE OF THE EQUIL. O PRESSURE IN THE REACTION CAV SUB2 O SUB6 PLUS 5 V SUB2 O SUB5 FORMS AND IS FORMED FROM CAV SUB12 O SUB30 PLUS 1-2 O SUB2 HAS BEEN DETD. AT 803-88DEGREESK. THE THERMODYNAMIC CHARACTERISTICS OF THE CA-V BRONZE HAVE BEEN ESTD.: DELTAH PRIME POSITIVE SUB298 EQUALS MINUS2395 KCAL-MOLE, SDEGREES SUB298 EQUALS 196.65 ENTROPY UNITS, C SUBP EQUALS 266.81 PLUS 3.17 TIMES 10 PRIME NEGATIVE3 T. FACILITY: INST. KHIM., SVERDLOVSK, USSR.